

Springfield to Quantico Enhanced Public Transportation Feasibility Study

Technical Advisory Committee Meeting #7
May 20, 2021

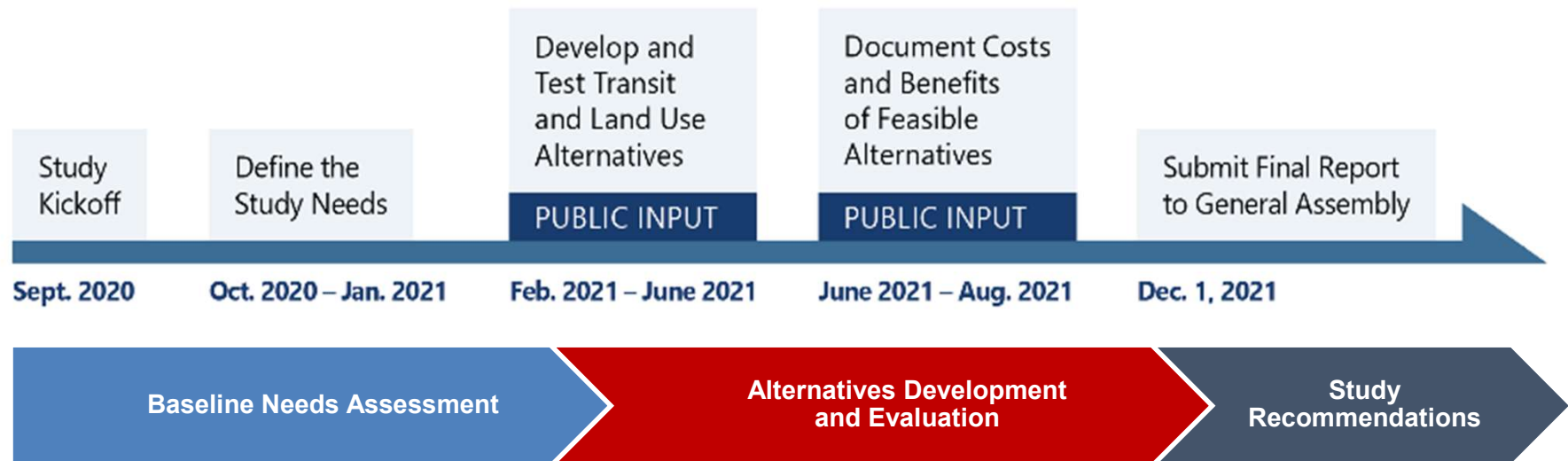


Virginia Department of Rail and Public Transportation

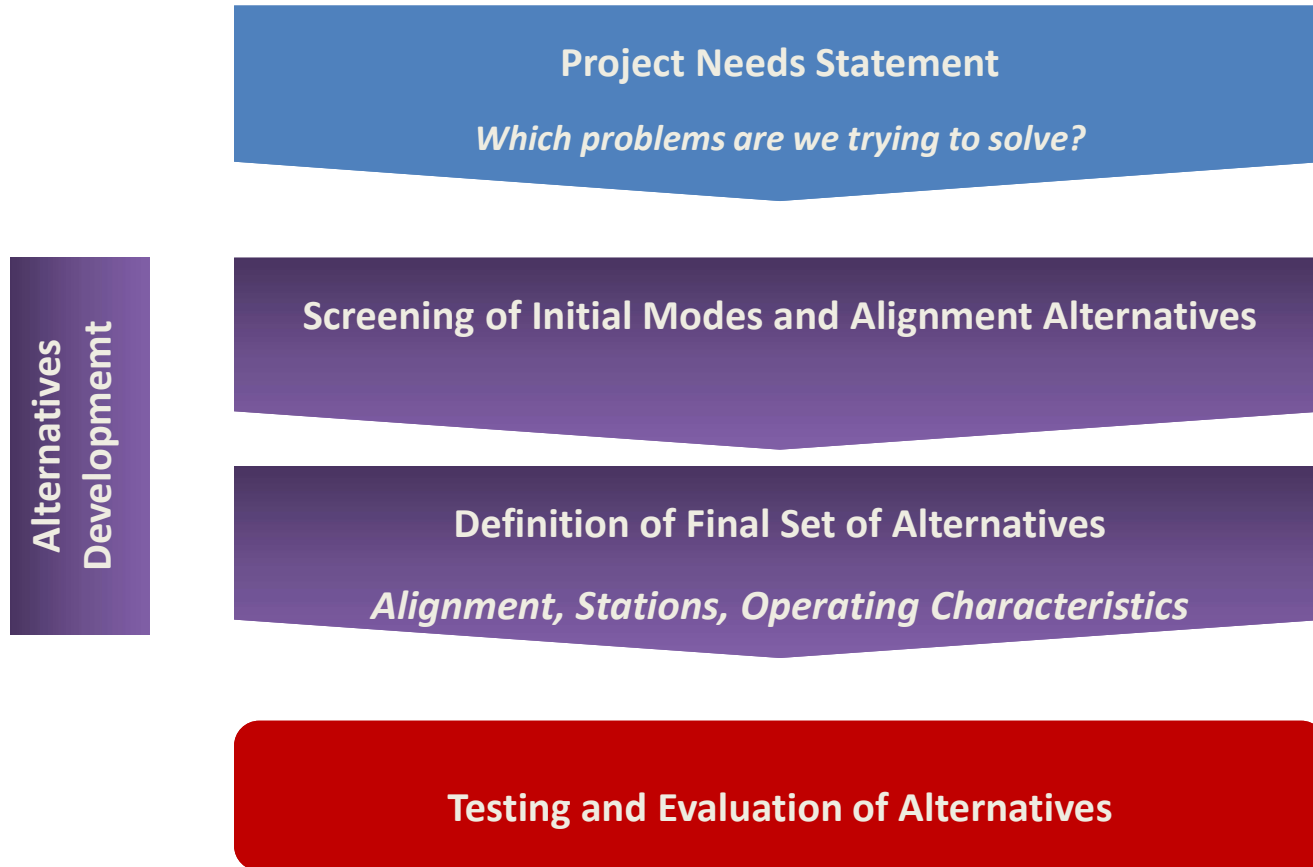
Meeting Agenda

- Introductions / Welcome
- Public and Stakeholder Outreach Status
- Alternatives Definition
- Alternatives Evaluation
- Next Steps – Future TAC Meetings

Study Schedule



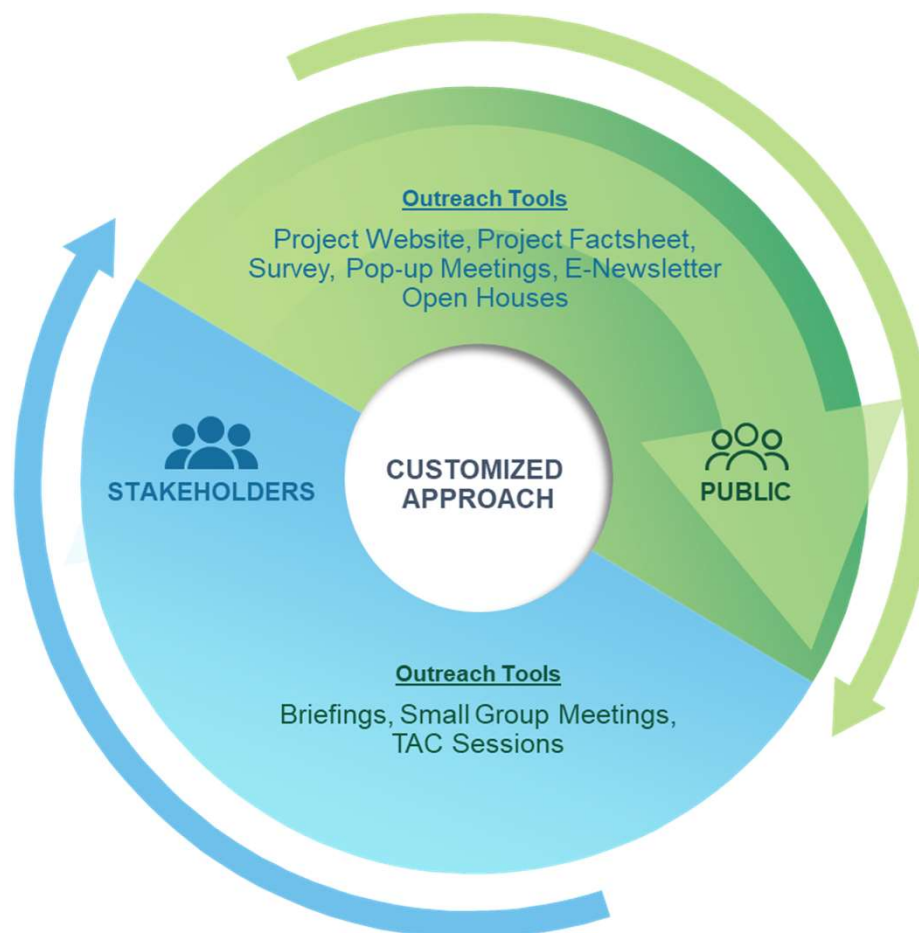
Transit Alternatives Development



Public and Stakeholder Outreach

Outreach Status

- Completed Activities
 - DRPT Website Launched
 - Project Factsheet
 - On-Line Survey Launched April 12th – will stay open until May 17th
 - Virtual Public Meeting
 - May 4th, 6-8pm
- Future Activities
 - Summarize survey results
 - 2nd Public Meeting



<http://www.drpt.virginia.gov/transit/springfield-to-quantico/>

Virtual Public Meeting - Overview

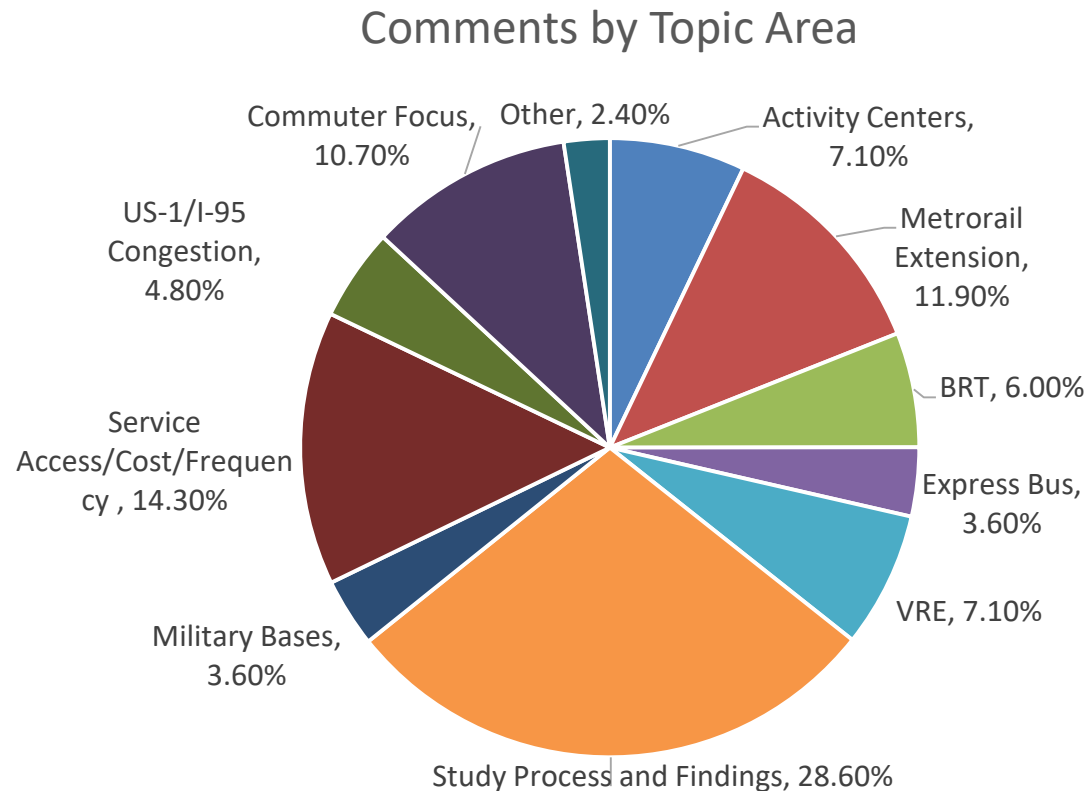
Virtual Public Meeting – May 4, 2021

- 112 registered participants (not including DRPT and consultant team)
- 79 people attended the meeting including six elected officials (or their representatives) and some public agency representatives
- Over 30 Northern Virginia zip codes were submitted by registrants covering both Prince William and Fairfax counties
- Registrants reported hearing about the meeting through a wide variety of channels including email, Facebook, Twitter, with some noting specifically communications from Prince William County and Senator Surovell
- Closed captioning services were provided based on the requests of four people
- Spanish and Vietnamese interpretation services were available but not used



Virtual Public Meeting – Common Themes

- Common themes:
 - 51 comments and questions received throughout the meeting through chat and during breakout room discussions



Virtual Public Meeting – Key Findings

- Study alternatives are serving the right areas, especially rail to Potomac Mills and a BRT extension to Dumfries, as well as connectivity from Fairfax to Fort Belvoir
- Access and frequency are important but also consider cost and equity
- Analysis of alternatives should be presented relative to costs and success at gathering ridership
- Weekend travel and connections to shopping destinations are important
- Consider the first mile and last mile to stations and military bases

Alternatives Definition

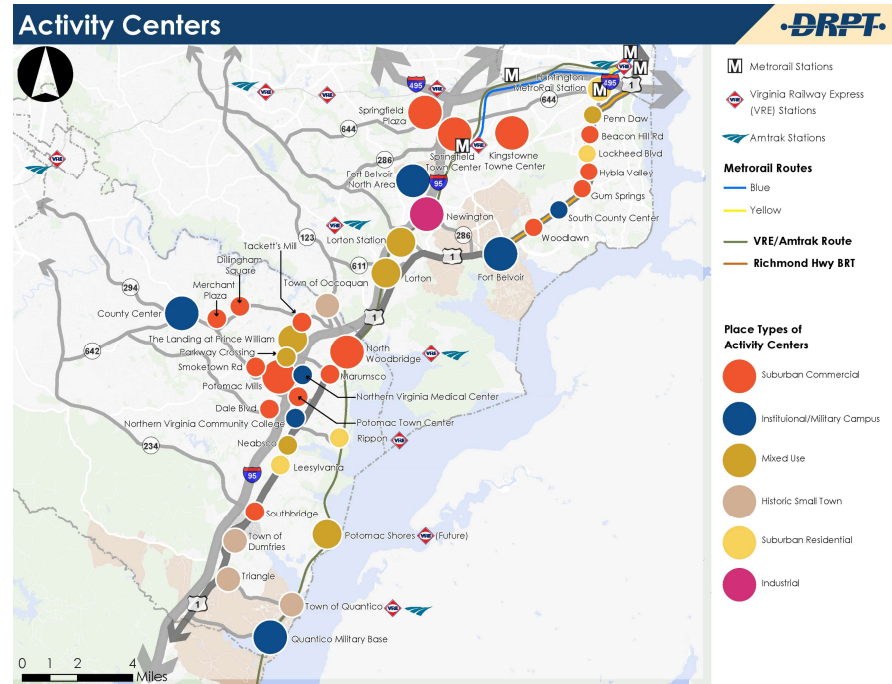
Corridor Land Use Assessment

Completed Activities:

- Initial Coordination with County Planning Staff
- Existing conditions analysis and identification of multimodal centers by type
- Identification of potential station locations

Next Activities:

- Selection of Station Area/Multimodal Center Planning for Station Areas (Up to 10)
- Development of Alternative Land Use Scenarios
- Modeling and Testing of Transit and Land Use Scenarios

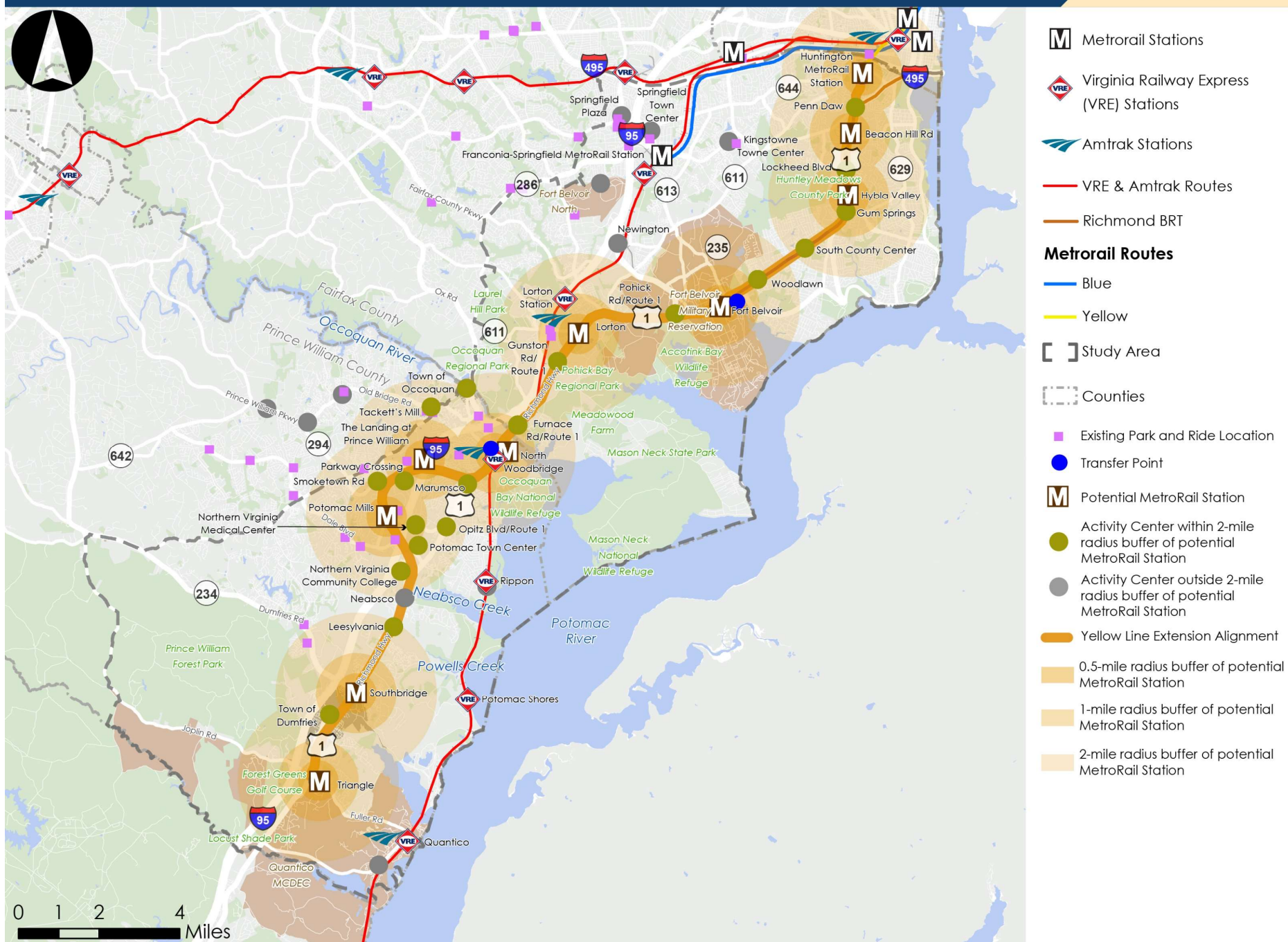


Identification of Preliminary Station Locations

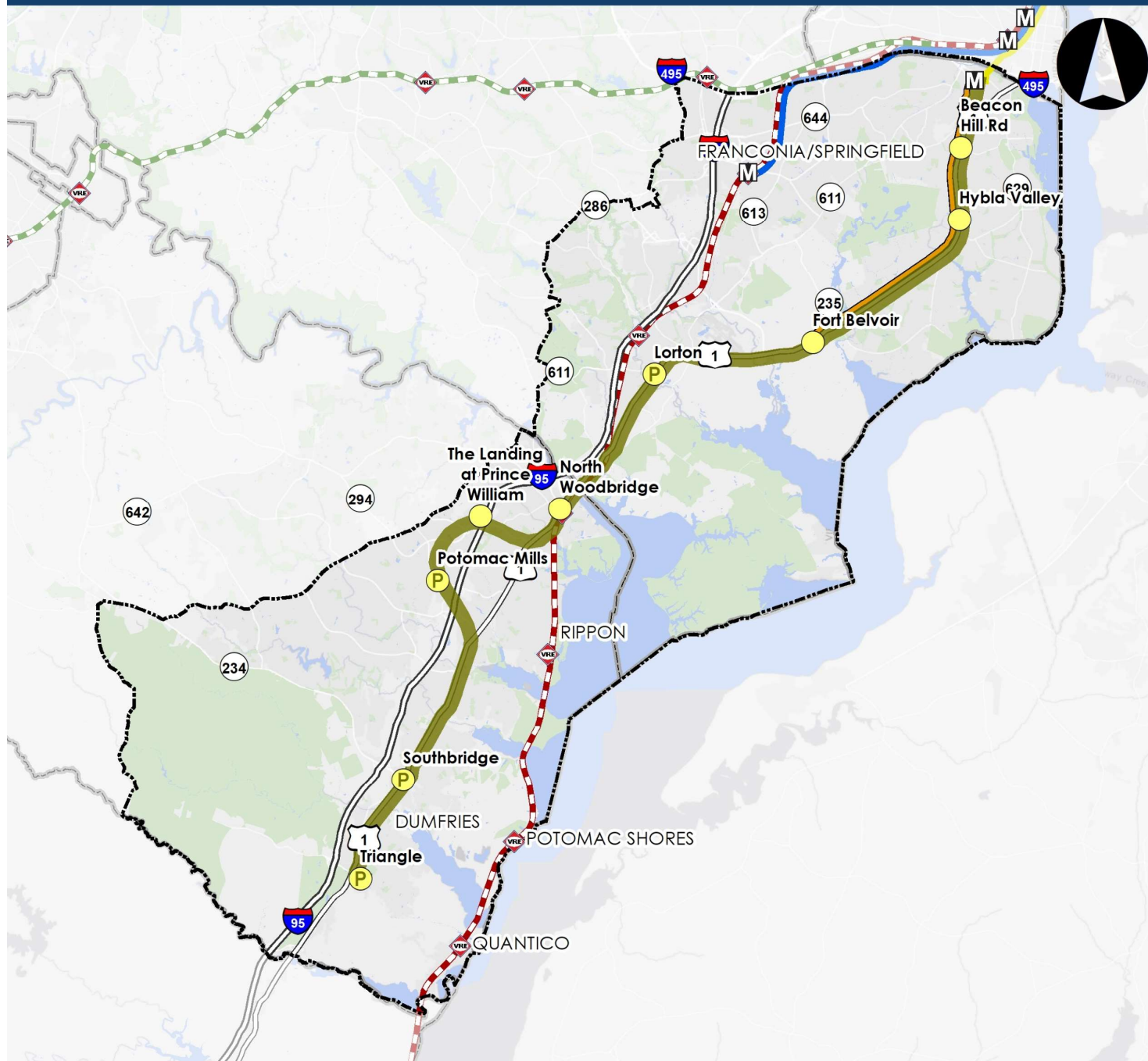
Station locations were identified for Blue, Yellow, BRT, and VRE alternatives using a combination of the following factors:

- Major activity centers that are on or within ¼ mile of the proposed alignment
- Transfer locations
 - Existing / planned premium transit stations – Metro, BRT, VRE, Amtrak
 - Existing Park and Ride locations
 - Existing local bus routes
- Transit centers/BRT stops identified in small area plans and in the regional model
- Summary of population, employment, and other demographic data within ½ mile radius of activity centers
- Public and stakeholder input

DRPT.



POTENTIAL YELLOW LINE ALTERNATIVE



M Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Richmond Highway
BRT

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

Manassas

Potential Yellow Line Alignment

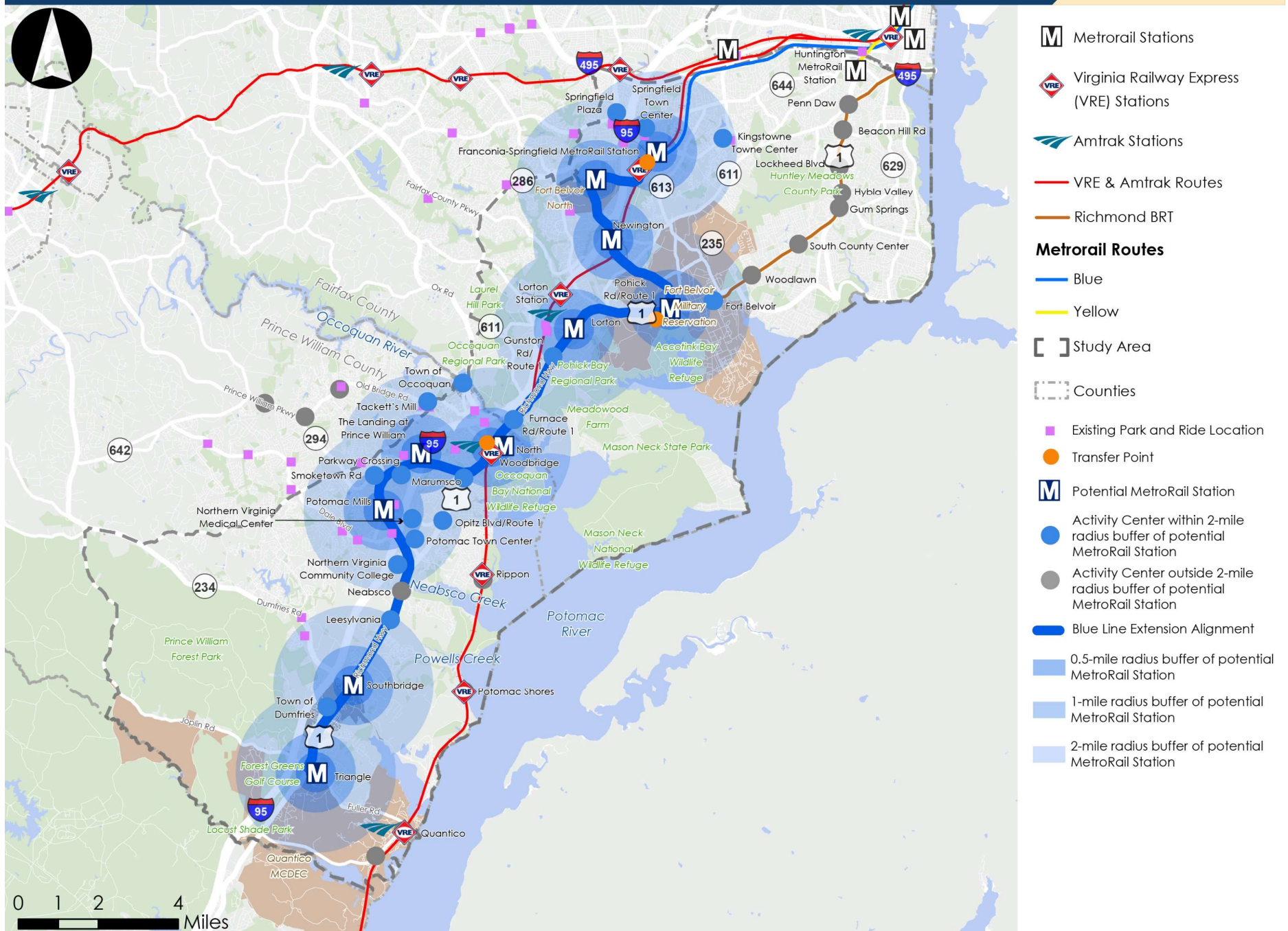
Potential Yellow Line Stations

P With Parking

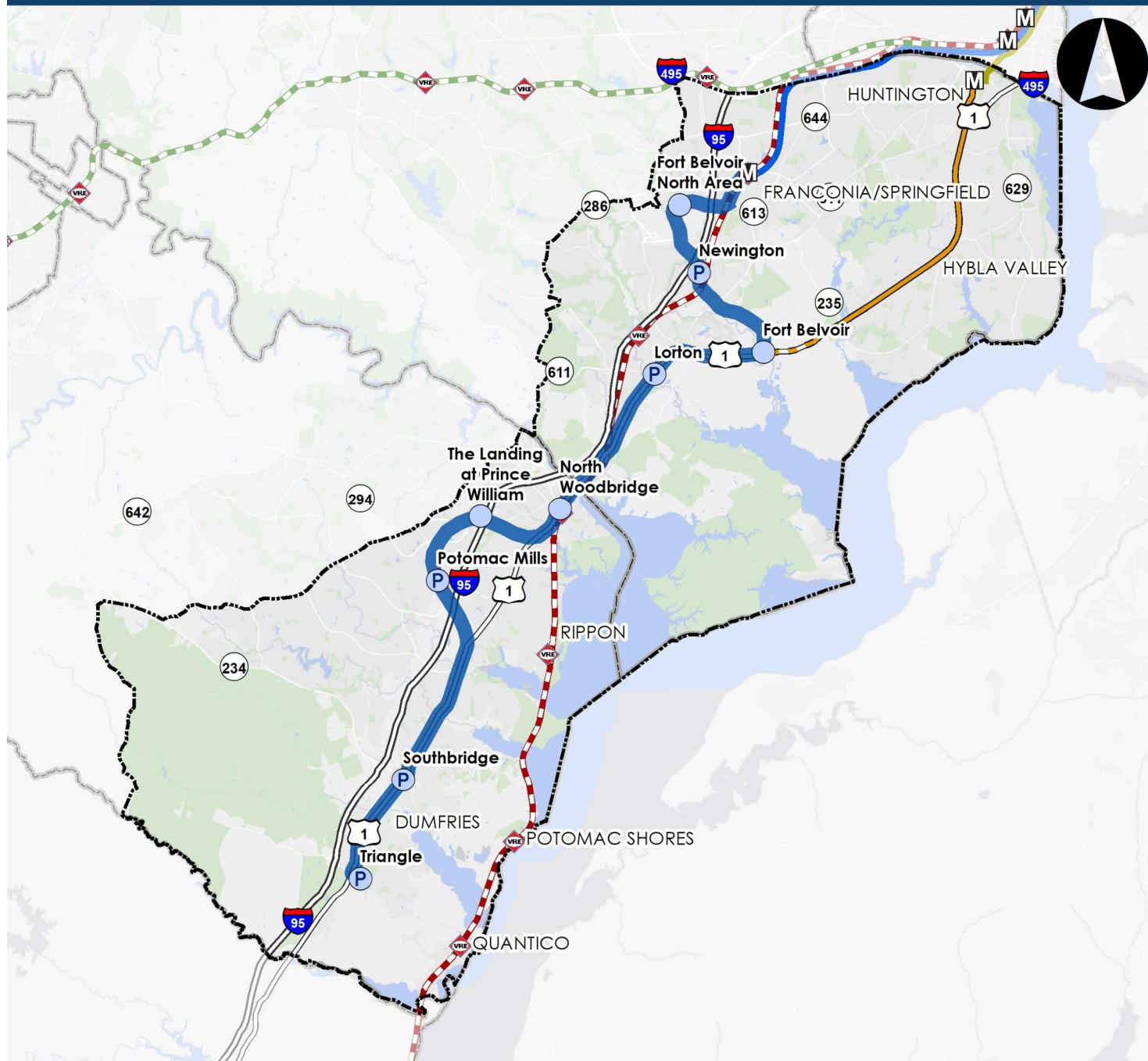
Without Parking

0 1 2 4 Miles

Potential Blue Line Alternative



POTENTIAL BLUE LINE ALTERNATIVE



M Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

Manassas

Richmond Highway BRT

Richmond Highway BRT Extension

Potential Blue Line Alignment

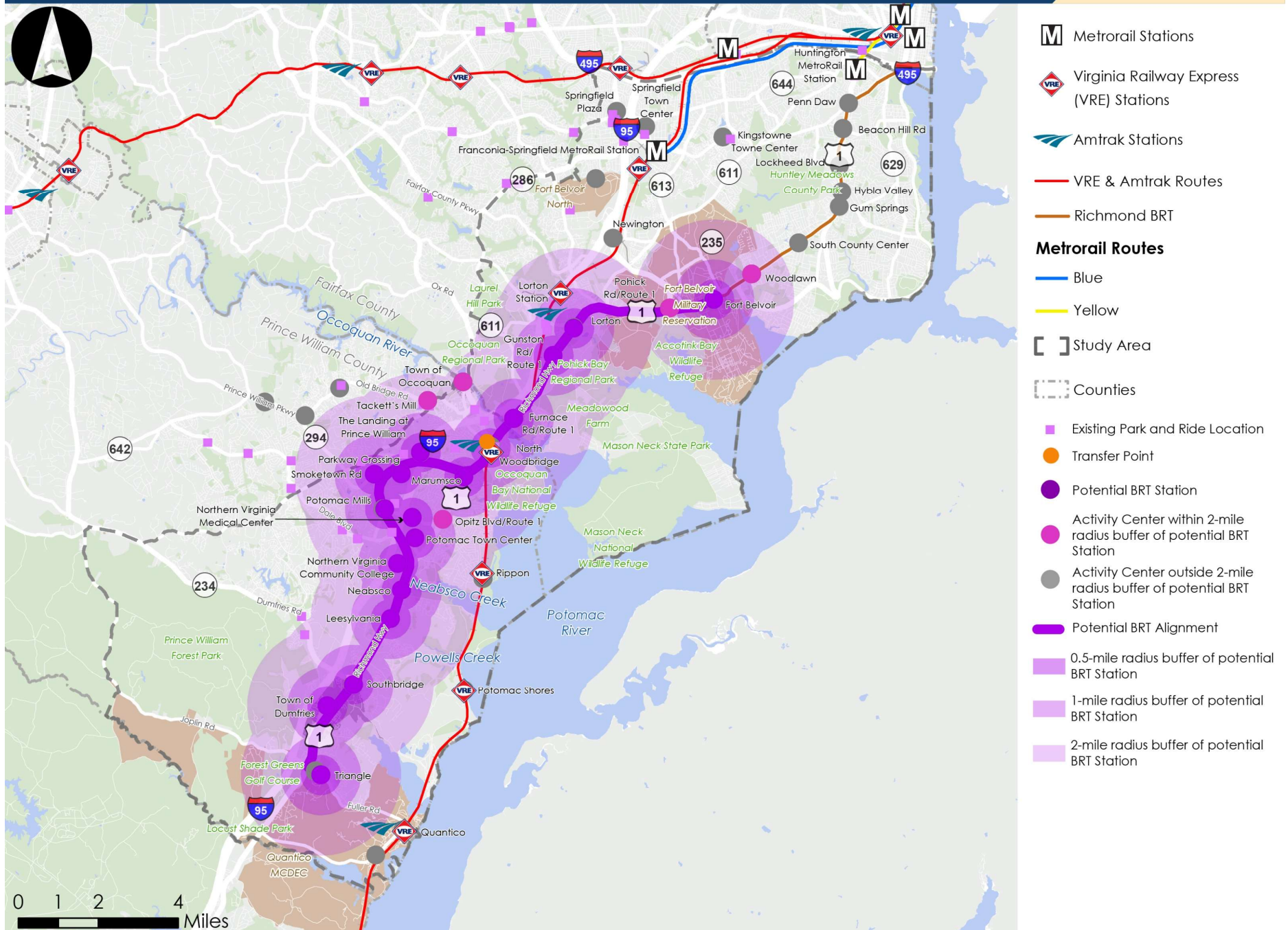
Potential Blue Line Stations

With Parking

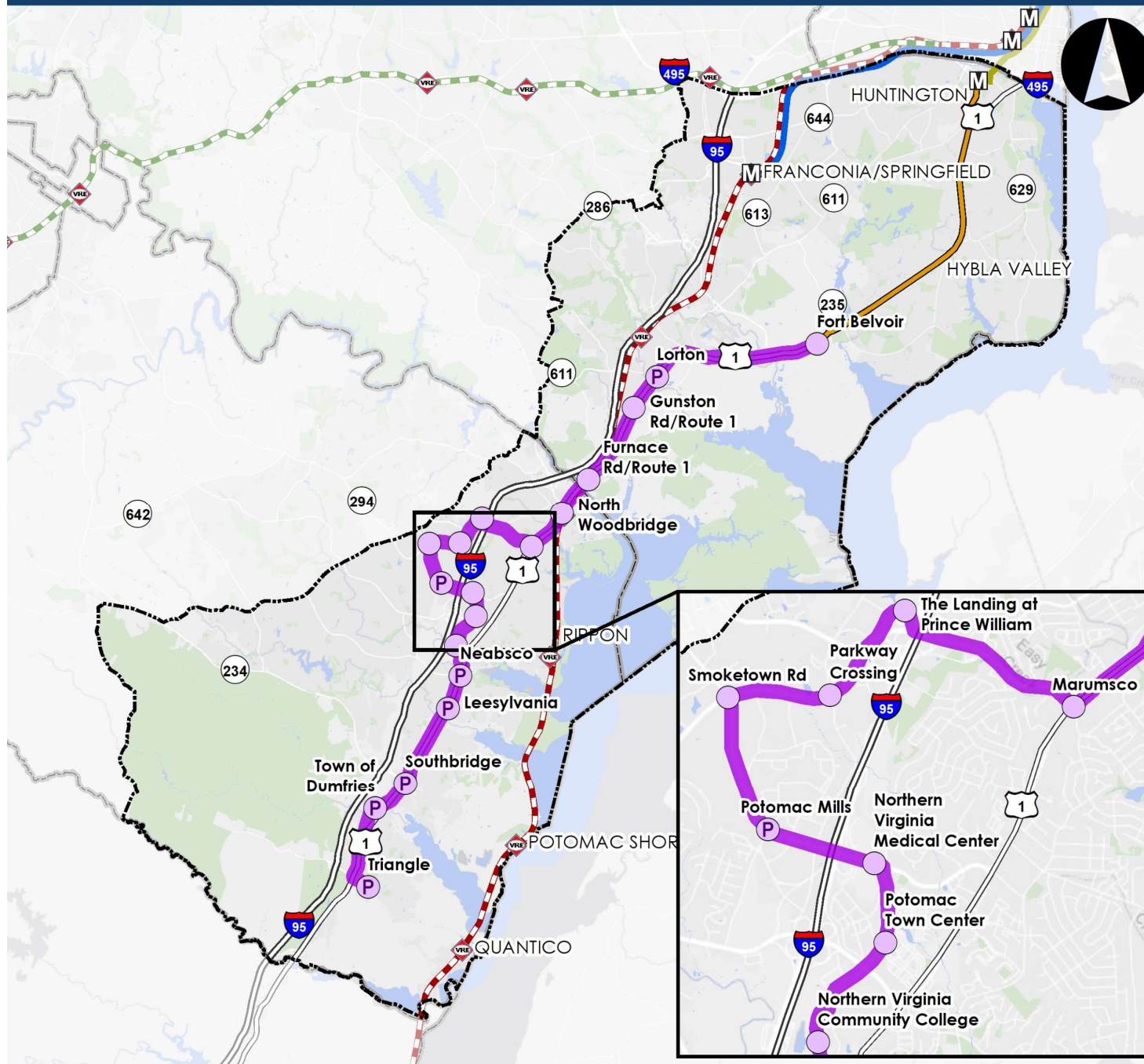
Without Parking

0 1 2 4 Miles

Potential BRT Alternative



POTENTIAL BRT ALTERNATIVE



M Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Richmond Highway BRT

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

Manassas

Potential BRT Alignment

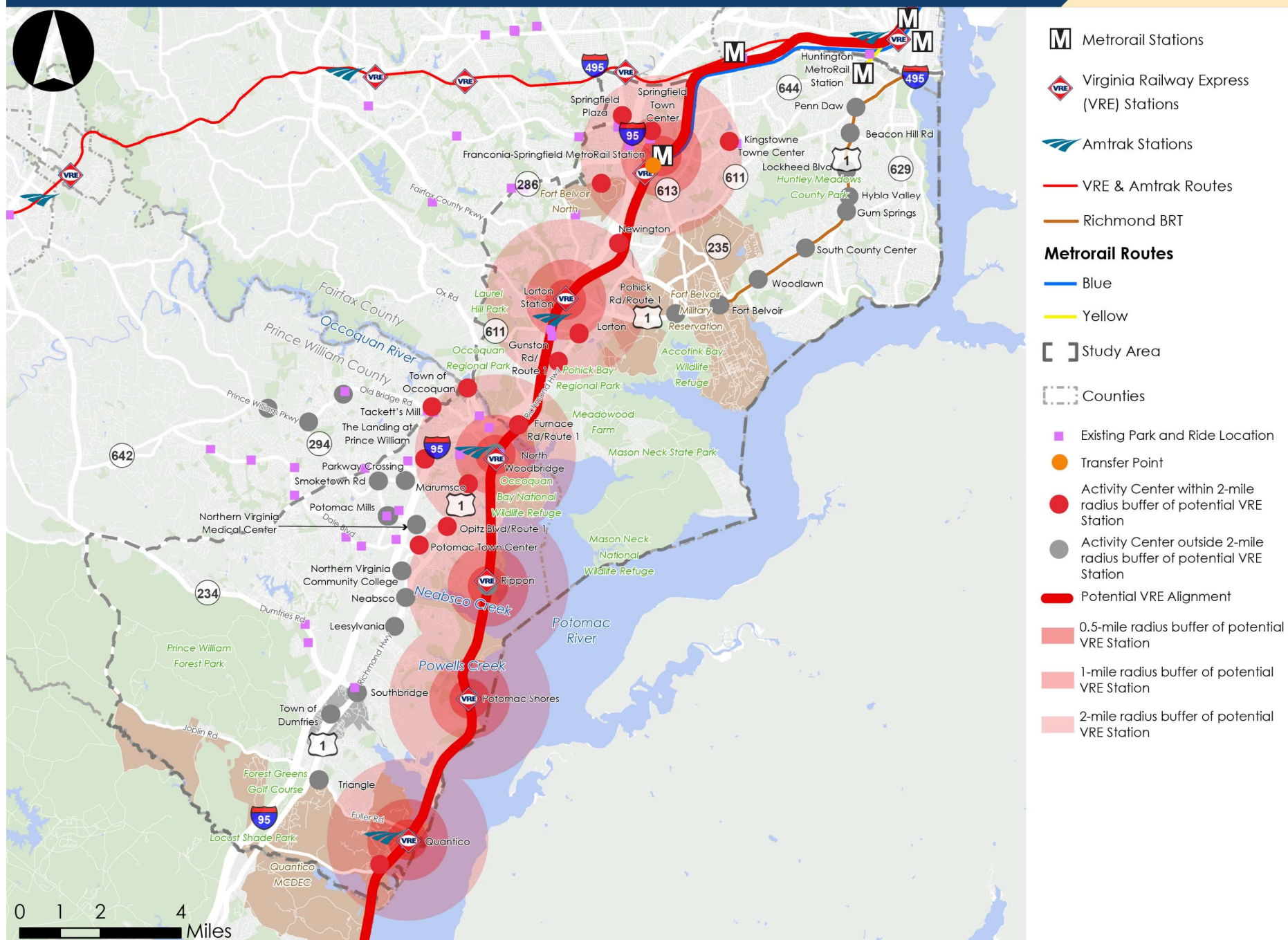
Potential BRT Stations

P With Parking

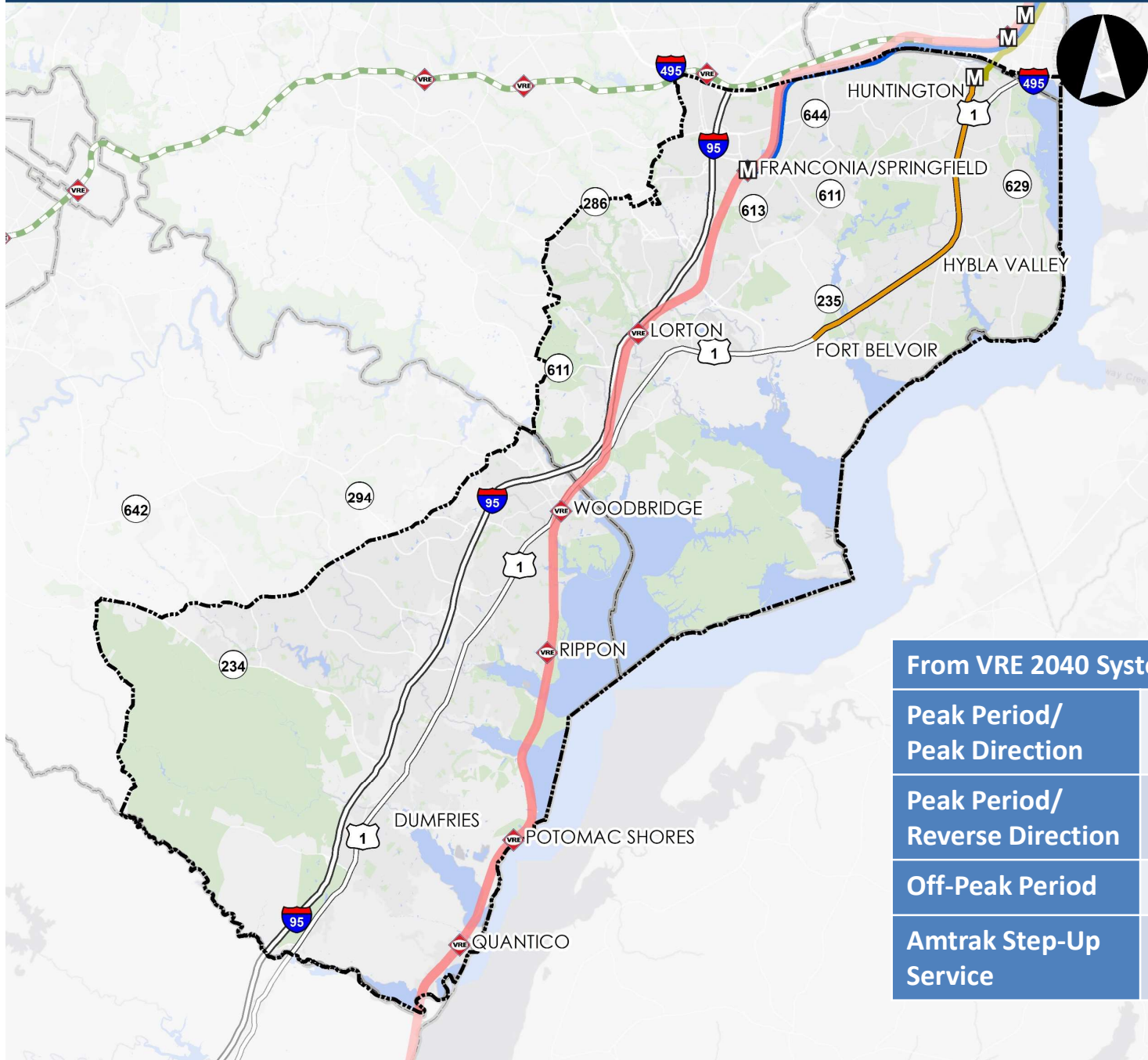
Without Parking

0 1 2 4 Miles

Potential VRE Alternative



POTENTIAL VRE ALTERNATIVE



- Metrorail Stations
- Virginia Railway Express (VRE) Stations
- County Boundary
- Richmond Highway BRT
- Metrorail Routes**
 - Blue
 - Yellow
- VRE Routes**
 - Manassas
 - Increased Frequency along Existing VRE Alignment

From VRE 2040 System Plan

Peak Period/ Peak Direction	15 mins
Peak Period/ Reverse Direction	30 mins
Off-Peak Period	60 mins
Amtrak Step-Up Service	60 mins peak period/ direction only



Express Bus Alternative Additions

Possible New Routes

Origins

Lake Ridge
Dale City/Potomac Mills, Quantico
Woodbridge
Woodbridge
Woodbridge/Dale City/Quantico

Destinations

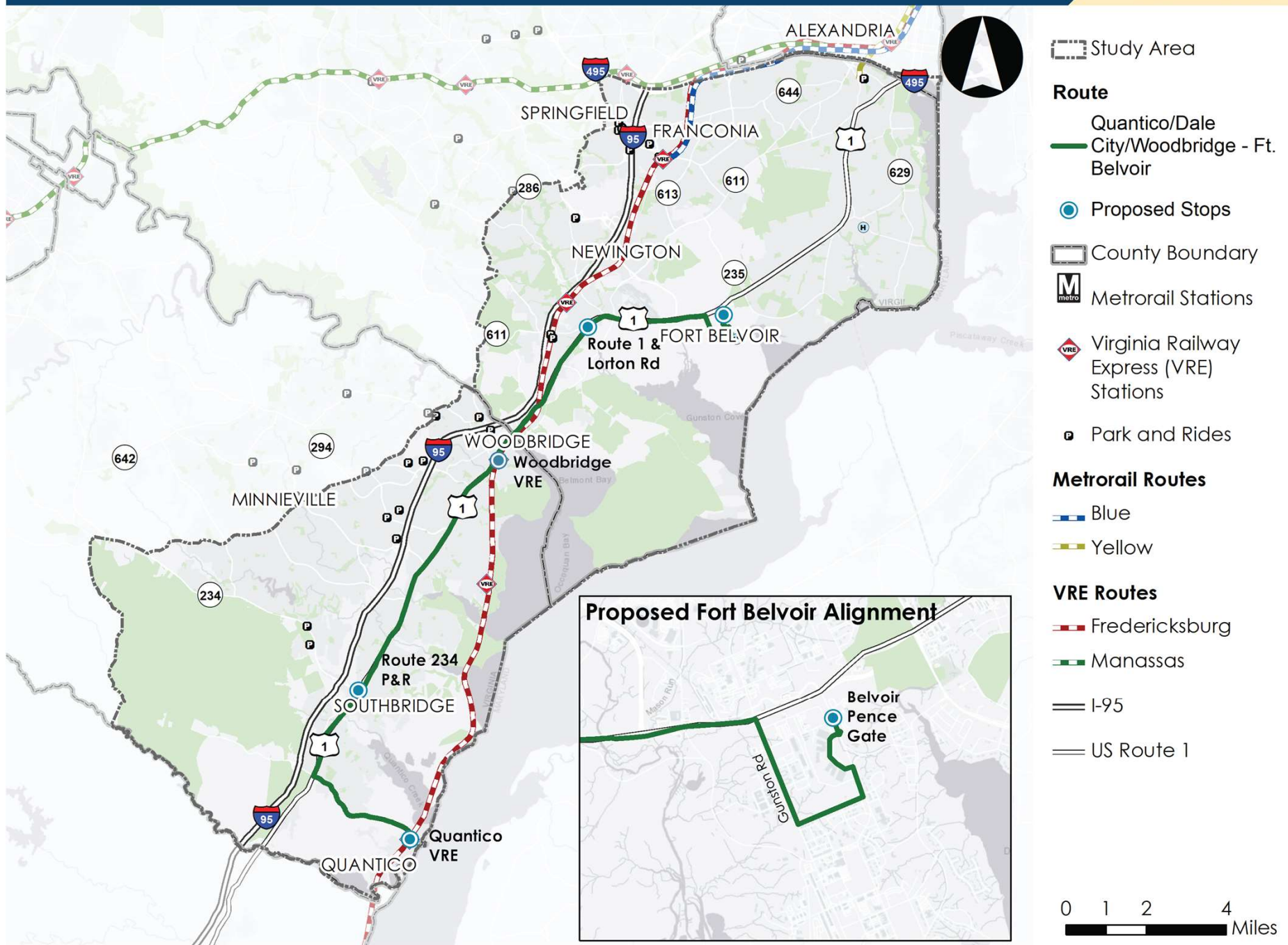
Old Town Alexandria via I-95
Tysons
Reston
Fairfax City
Ft. Belvoir South

Peak Hour – Peak Direction – 30 minutes on all except Ft. Belvoir

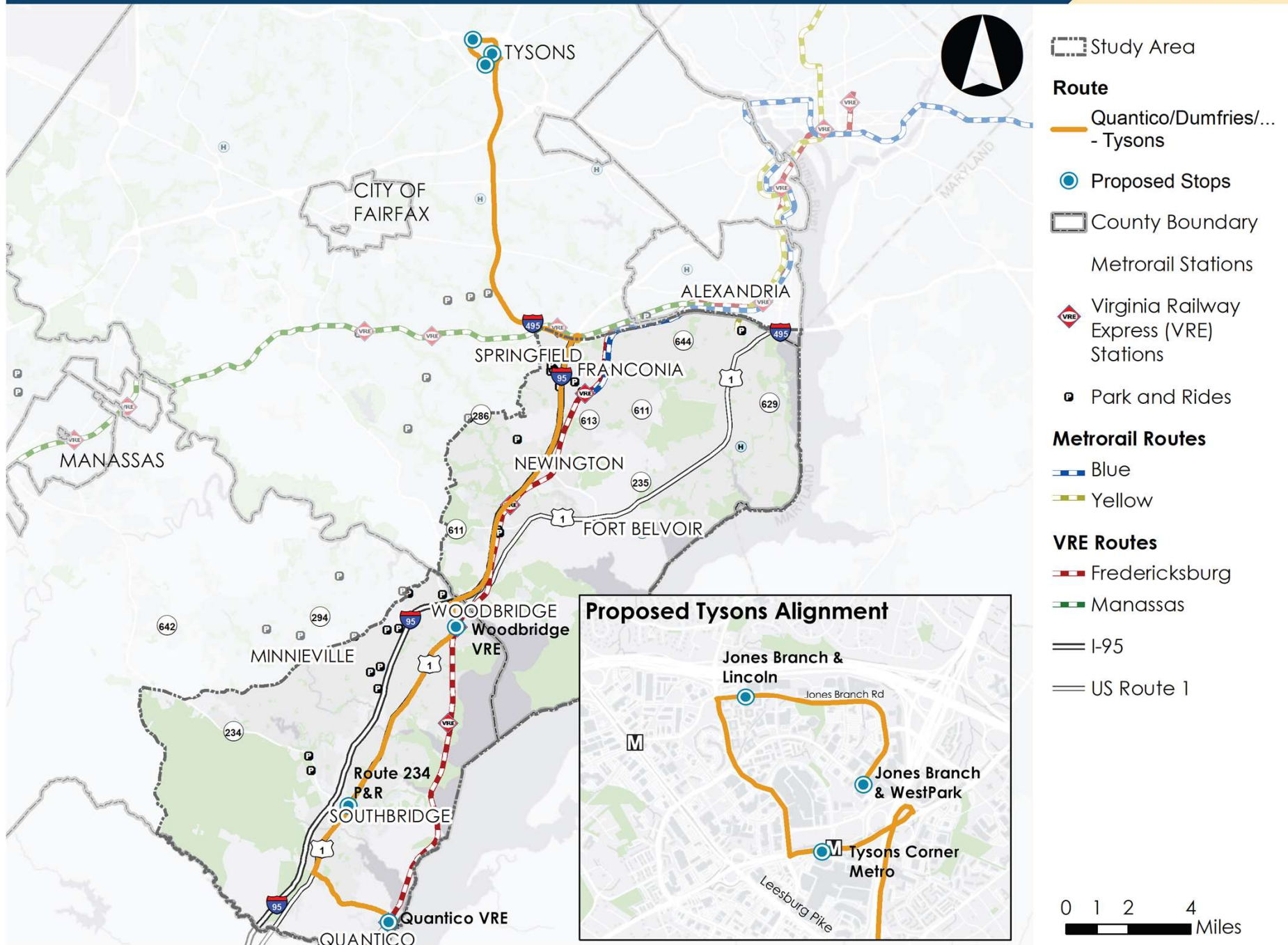
Ft. Belvoir – All Day – Bi-directional

- *30 minute in peak*
- *60 minutes in off peak*

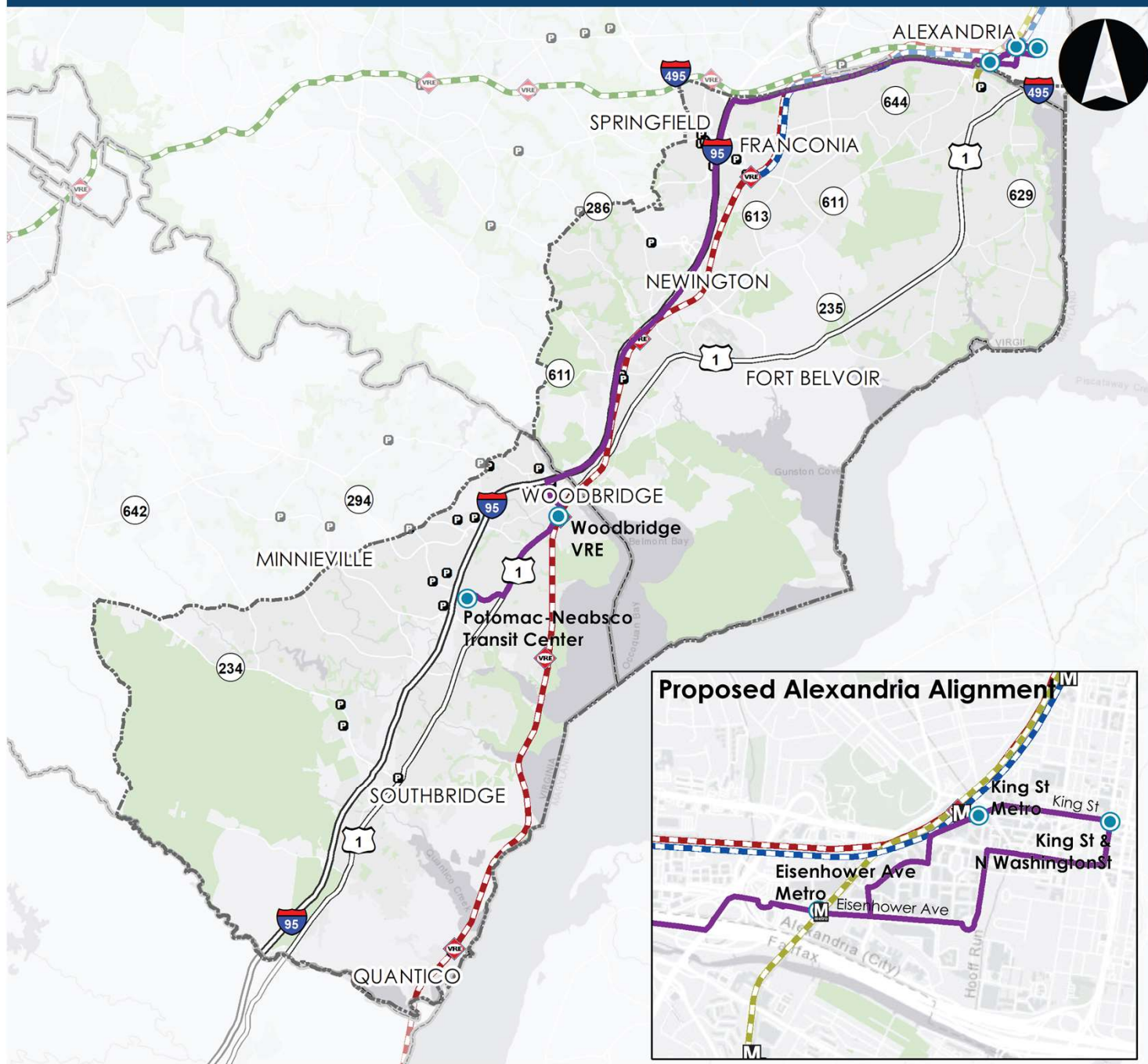
Express Bus Alternative: Fort Belvoir Service



Express Bus Alternative: Extended Tysons Service



Express Bus Alternative: Woodbridge-Alexandria



Study Area

Route

Woodbridge - Alexandria

Proposed Stops

County Boundary

Metrorail Stations

Virginia Railway Express (VRE) Stations

Park and Rides

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

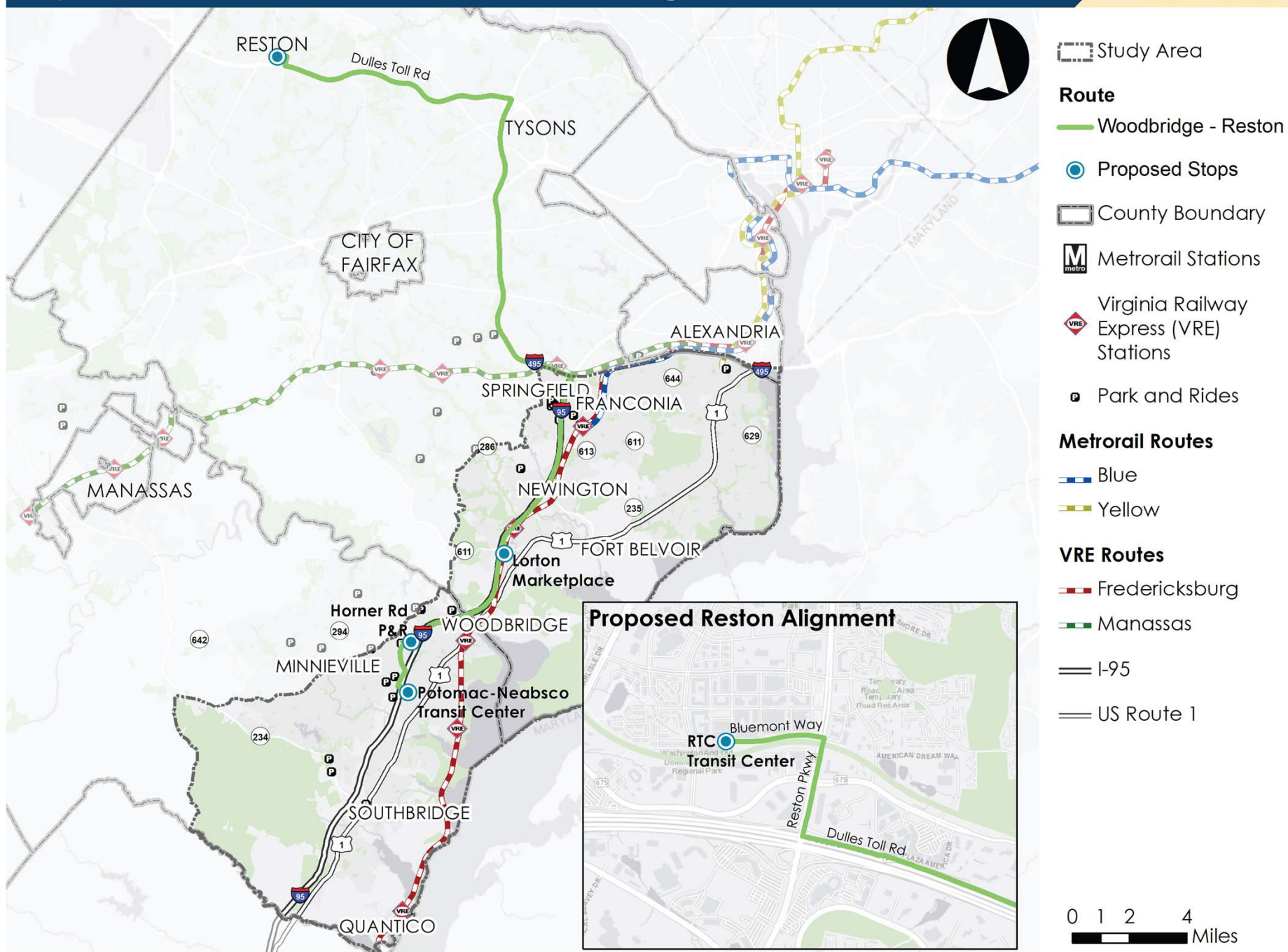
Manassas

I-95

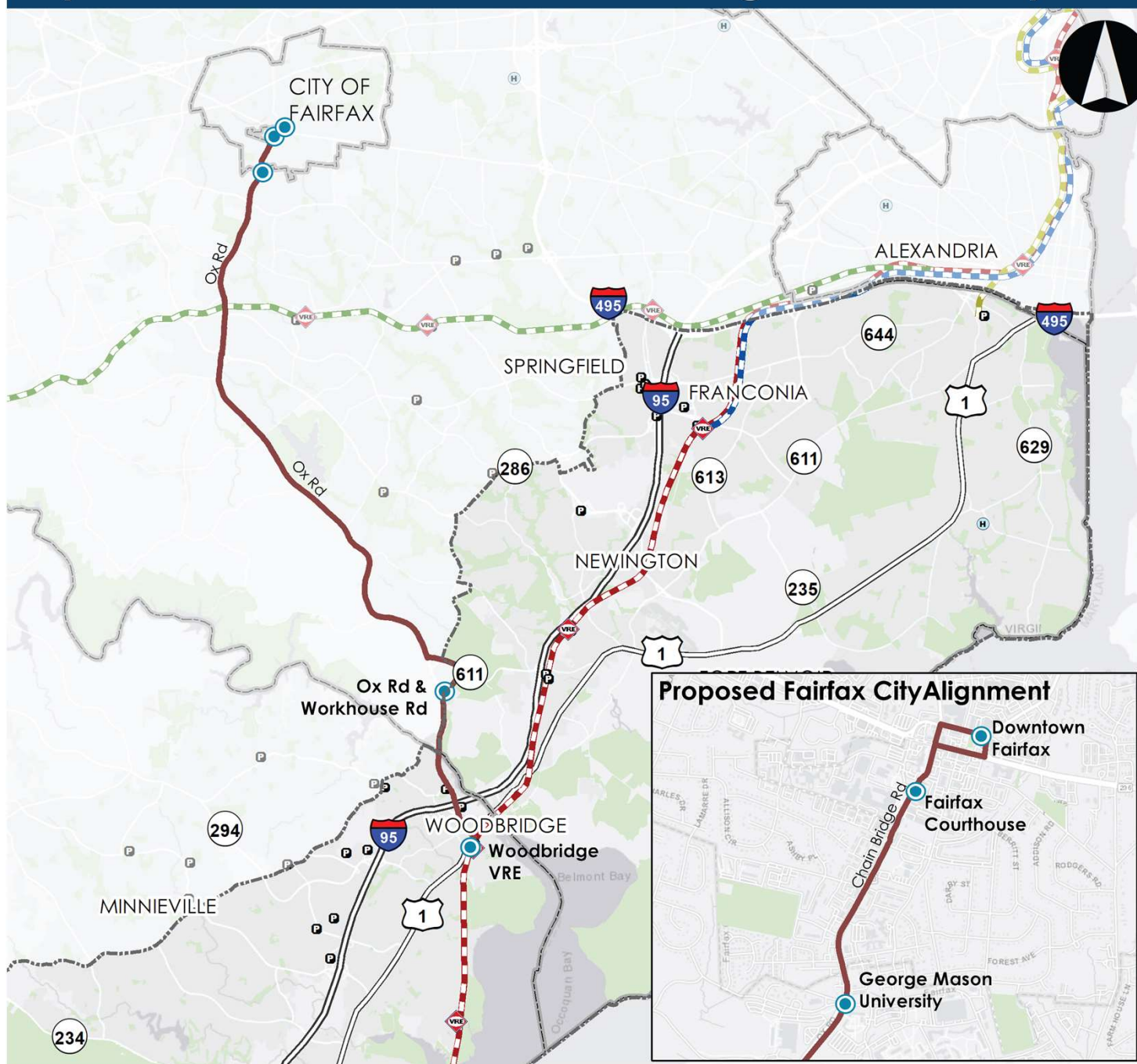
US Route 1

0 1 2 4
 Miles

Express Bus Alternative: Woodbridge-Reston



Express Bus Alternative: Woodbridge-Fairfax City



Study Area

Route

Woodbridge - Fairfax City

Proposed Stops

County Boundary

Metrorail Stations

Virginia Railway Express (VRE) Stations

Park and Rides

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

Manassas

I-95

US Route 1




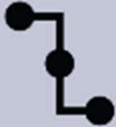


0 1 2 4
 Mile

Final Transit Alternatives for Testing

Alternative	New Stations	Peak Headway	Off-Peak Headway	Speed Assumptions
Metrorail – Blue Line Extension	Up to 9 Total (5 w/ parking)	8 min	12 min	35 mph (average)
Metrorail – Yellow Line Extension	Up to 9 Total (4 w/ parking)	8 min	12 min	35 mph (average)
Bus Rapid Transit	Up to 17 Total (7 w/ parking)	6 min	12 min	20-25 mph (average)
VRE Service Improvements	n/a (Potomac Shores in Baseline)	15 min (pk dir); 30 min (off-pk dir)	60 min	Same as current
Express Bus Routes	n/a	30 min	60 min (Ft. Belvoir only)	Congested speed (also include HOT lane speed)

Alternatives Evaluation

How will we evaluate feasibility?

Goals for Enhanced Transit		
Ridership Potential  Increase transit usage in the study corridor	Congestion Mitigation  Reduce the amount of traffic congestion in the study corridor	Equity  Provide a fair distribution of costs and benefits across different population groups
Regional Accessibility/Connectivity  Increase access to regional activity centers and meet identified service gaps	Cost-effectiveness  Ensure that resources are used efficiently	Development Potential  Create opportunities for development around stations or stops

Draft Evaluation Framework

Ridership Potential



Increase transit usage in the study corridor

- Total daily transit trips
- Ridership on the alternative (boardings)
- Person-Miles Traveled (PMT) on transit in the study corridor
- Transit person-throughput at key cutlines

Congestion Mitigation



Reduce the amount of traffic congestion in the study corridor

- Vehicle Miles Traveled (VMT) in congestion by severity in the Study corridor
 - Severe congestion
 - Heavy Congestion
 - Moderate Congestion
 - Uncongested

Draft Evaluation Framework

Regional Accessibility/ Connectivity



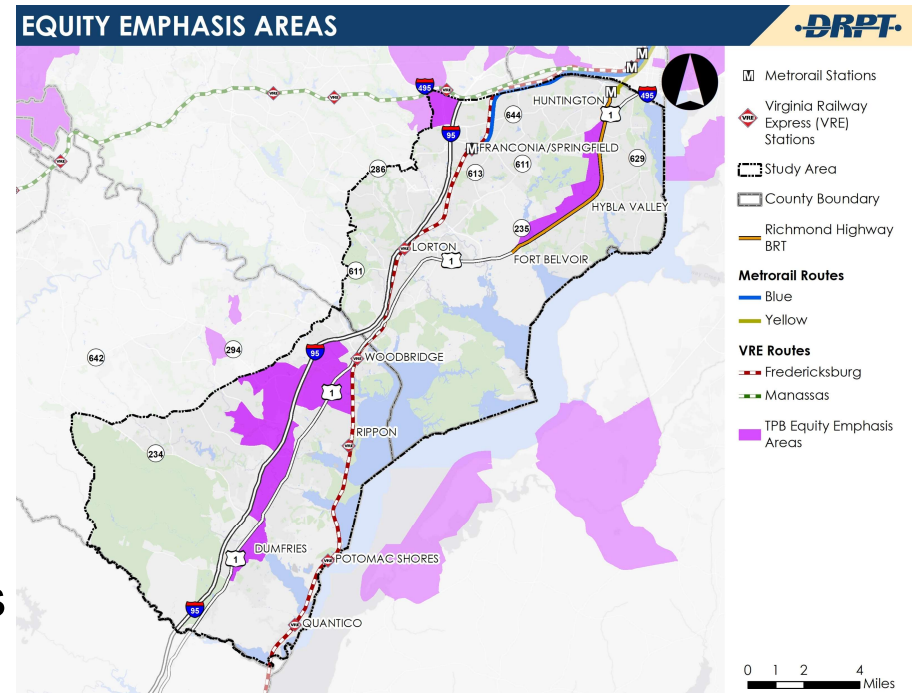
Increase access to regional activity centers and meet identified service gaps

- Population and Jobs within ½ mile of transit
- Access to Jobs: number of jobs accessible within 60 mins by transit
- Number of residents able to access key employment centers by transit within 60 mins
 - As identified by legislation: MCB-Quantico, Ft. Belvoir, Lorton, Potomac Mills

Draft Evaluation Framework



- Access to Jobs in Equity Emphasis Areas (EEAs): number of jobs accessible within 60 mins by transit
- Total daily transit trips to/from EEAs
- EEA population within ½ mile of transit
- Affordability of transit fares



Equity Emphasis Areas are defined by COG/TPB as Census tracts with higher-than-average concentrations of low-income, minority populations, or both. EEAs will be used to analyze impacts on Title VI/Environmental Justice (EJ) protected populations.

Draft Evaluation Framework

Cost-effectiveness



Ensure that resources are used efficiently

- Total Cost: Capital and Operating costs
- Total Cost per Boarding
- Total Cost per Person-Mile Traveled (PMT) on transit
- Total Cost per Boarding by residents of Equity Emphasis Areas

Cost Calculations will include high level estimates of:

Capital Costs:

- Runway
- Rolling Stock
- Stations
- Parking Facilities
- No Yard or Garages
- No Land Acquisition

Operating Costs:

- Hourly operating costs for the Alternative
- Any supporting changes to local bus network
- Farebox Recovery
- Metrorail operating costs will be estimated using Subsidy Allocation formula

How will we evaluate feasibility?



- Potential development around selected station areas
- Note – to be used in the land use scenario testing phase (not for initial alternatives using COG cooperative forecasts)

Discussion & Meeting Wrap-Up

Schedule for Future TAC Meetings

TAC #	Month	Topics to Be Covered
8	Jun. 2021	<ul style="list-style-type: none">• Testing of Alternatives – Initial Evaluation Results (Task 8)• Land Use Assessment (Task 13)
9	Jul. 2021	<ul style="list-style-type: none">• Testing of Alternatives –Refinements and Sensitivity Tests (Task 8)• Draft Costs & Legal Considerations (Tasks 9 and 10)
10	Aug.2021	<ul style="list-style-type: none">• Summary of Transit Alternatives and Land Use Scenario Evaluation Results (Task 11)
11	Sept.2021	<ul style="list-style-type: none">• Draft Study Findings and Recommendations (Task 12)